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*G.W. 1642* *#15 W/Don't*  
**PATENT**  
Attorney Docket No.: 18623-58-9  
Client Reference No.: EPI 0058.90 US

On *February 9, 1999*

TOWNSEND and TOWNSEND and CREW LLP

By: *[Signature]*

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Howard M. Grey et al.

Application No.: 09/017,735

Filed: 2/3/98

For: HLA-A2.1 BINDING PEPTIDES  
AND THEIR USES

Examiner: Not assigned

Art Unit: 1642

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR §1.97 and  
§1.98

Assistant Commissioner for Patents  
Washington, D.C. 20231

**FEB 18 1999**

**GROUP 18**

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. Also enclosed is a copy of the International Search Report for the related application PCT/US98/05039. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

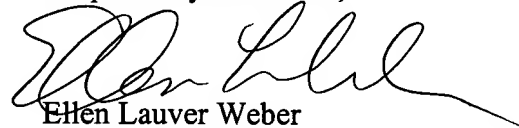
As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and

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no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

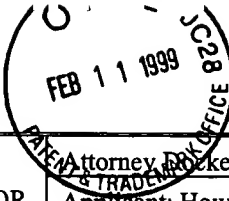
Respectfully submitted,



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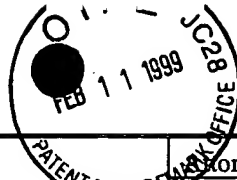


FORM PTO-1449 (Modified)	Attorney Docket No.: 018623-005890US	Application No.: 09/017,735
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Applicant: Howard M. Grey et al.	
	Filing Date: 2/3/98	Group: 1642

Reference Designation		U.S. PATENT DOCUMENTS				Page 1
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
___ A1	5,342,774	08/30/94	Boon <i>et al.</i>	435	240.2	12/12/91
___ A2	5,200,320	04/06/93	Sette <i>et al.</i>	435	7.24	12/07/87
___ A3	5,405,940	04/11/95	Boon <i>et al.</i>	530	328	08/31/92

FOREIGN PATENT DOCUMENTS						
	Document No.	Date	Country	Class	Sub-class	Translation (Yes/No)
___ B1	WO 94/05304 (PCT/US93/08 157)	03/17/94	PCT	C07K	7/06	
___ B2	WO 92/21033		PCT			yes
___ B3	WO 94/11738		PCT			
___ B4	WO 92/02543	2/92	PCT			
___ B5	WO 95/25122	9/21/95	PCT	C07K	14/18	
___ B6	WO 94/20127	9/15/94	PCT	A61K	37/02	

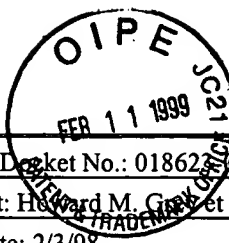
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)	
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___ C2	Ding, M. et al., Biochem. Biophys. Res. Commun. 202(1): 549-555 (July 15, 1994), "Cloning and analysis of MAGE-1-related genes"
___ C3	Gaugler, B. et al., J. Exp. Med. 179(3): 921-930 (March 1, 1994), "Human gene MAGE-3 codes for an antigen recognized on a melanoma by autologous cytolytic T lymphocytes"
___ C4	Oaks, M.K. et al., Cancer Res. 54: 1627-1629 (April 1, 1994), "Molecular cytogenetic mapping of the human melanoma antigen (MAGE) gene family to chromosome region Xq27-qtr: implications for MAGE immunotherapy"
___ C5	Paul, W.F.(ed.), Fundamental Immunology, 3rd ed., pp- 976-978 (1993), Raven Press, NY
___ C6	Traversari, C. et al., J. Exp. Med. 176: 1453-1457 (November, 1992), "A nonapeptide encoded by human gene MAGE-1 is recognized on HLA-A1 by cytolytic T lymphocytes directed against tumor antigen MZ2-E"
___ C7	Robbins Pathologic Basis of Disease , 4 <sup>th</sup> edition (R.S. Cotran <i>et. al.</i> , ed.), pp. 296-299 (1989), W.B. Saunders Co., Philadelphia
___ C8	Weynants, P. et al., Int. J. Cancer, 56: 826-829 (1994), "Expression of MAGE genes by non-small-cell lung carcinomas"
___ C9	Zakut, R. et al., Cancer Res. 53: 5-8 (January 1, 1993), "Differential expression of MAGE-1, -2, and -3 messenger RNA in transformed and normal human cell lines"
___ C10	Urban, J.L., et al., "Autoimmune T Cells: Immune Recognition of Normal and Variant Peptide Epitopes and Peptide-Based Therapy," Cell 59:257-271 (October 20, 1989).
___ C11	Wraith, D.C., et al., "Antigen Recognition in Autoimmune Encephalomyelitis and the Potential for Peptide-Mediated Immunotherapy," Cell 59:247-255 (October 20, 1989).
___ C12	Parker, K.C., <i>et al.</i> , "Peptide Binding to HLA-A2 and HLA-B27 Isolated from <i>Escherichia coli</i> " J. Biol. Chem. 267(8):5451-5459 (March 15, 1992).



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___ C13	Morrison, J., <i>et al.</i> , "Identification of the nonamer peptide from influenza A matrix protein and the role of pockets of HLA-A2 in its recognition by cytotoxic T lymphocytes," <i>Eur. J. Immunol.</i> , 22:903-907 (1992).		
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___ C17	Kannagi, M., <i>et al.</i> , "Target Epitope in the Tax Protein of Human T-Cell Leukemia Virus Type I Recognized by Class I Major Histocompatibility Complex-Restricted Cytotoxic T Cells," <i>J. of Virol.</i> 66 (5) :2928-2933 (May 1992).		
___ C18	Falk, K., <i>et al.</i> , "Allele-specific motifs revealed by sequencing of self-peptide eluted from MHC molecules," <i>Nature</i> 351:290-296 (23 May 1991).		
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___ C21	Rotzschke, O., <i>et al.</i> , "Naturally occurring peptide antigens derived from the MHC class-I-restricted processing pathway," <i>Immunology Today</i> 12(12):447-455 (1991).		
___ C22	De Bruijn, M.L.H., <i>et al.</i> , "Peptide loading of empty major histocompatibility complex molecules on RMA-S cells allows the induction of primary cytotoxic T lymphocyte responses," <i>Eur. J. Immunol.</i> 21:2963-2970 (1991).		
___ C23	Pamer, E.G., <i>et al.</i> , "Precise prediction of a dominant class I MHC-restricted epitope of <i>Listeria monocytogenes</i> ," <i>Nature</i> 353:852-855 (October 31, 1991).		
___ C24	DiBrino, M., <i>et al.</i> , "Endogenous peptides bound to HLA-A3 possess a specific combination of anchor residues that permit identification of potential antigenic peptides," <i>Proc. Nat'l. Acad. Sci. USA</i> 90: 1508-1512 (February 1993).		
___ C25	Paul, W.F. (ed.), <i>Fundamental Immunology</i> , 2nd ed., pp. 473-487 (1989), Raven Press, NY		
___ C26	Romero <i>et al.</i> , <i>J. Exp. Med.</i> 174: 603-612 (Sept. 1991), "H-2Kd-restricted antigenic peptides share a simple binding motif".		
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LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Howard M. Grey et al.	
		Filing Date: 2/3/98	Group: 1642
___ C34	Slingluff <i>et al.</i> , <i>J. Immunol.</i> (April 1, 1993) 150: 2955-2960, "Recognition of human melanoma cells by HLA-A2.1-restricted cytotoxic T lymphocytes is mediated by at least six shared peptide epitopes".		
___ C35	Van der Bruggen <i>et al.</i> , <i>Science</i> (Dec. 13, 1991) 254: 1643-1647, "A gene encoding an antigen recognized by cytolytic T lymphocytes on a human melanoma".		
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___ C39	Celis <i>et al.</i> , <i>Mol. Immunol.</i> (1994) 31: 1423-1430, "Identification of potential CTL epitopes of tumor-associated antigen MAGE-1 for five common HLA-A alleles"		
___ C40	Rammensee <i>et al.</i> , <i>Immunogenet.</i> (1995) 41: 178-228, "MHC ligands and peptide motifs: first listing"		
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___ C43	Jiang <i>et al.</i> , <i>Science</i> (May 22, 1992) 256: 1213-1215, "Role of CD8* T cells in murine experimental allergic encephalomyelitis"		
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___ C45	Miller <i>et al.</i> , <i>Proc. Nat'l. Acad. Sci. USA</i> (January 1992) 89: 421-425, "Suppressor T cells generated by oral tolerization to myelin basic protein to suppress both <i>in vitro</i> and <i>in vivo</i> immune responses by the release of transforming growth factor $\beta$ after antigen-specific triggering"		
___ C46	Foon, <i>Cancer Res.</i> (April 1, 1989) 49: 1621-1639, "Biological response modifiers: the new immunotherapy"		
___ C47	Parker <i>et al.</i> , <i>J. Immunol.</i> (December 1, 1992) 149:3580-3587, "Sequence motifs important for peptide binding to the human MHC Class I molecule, HLA-A2"		
___ C48	Sarobe <i>et al.</i> , <i>Eur. J. Immunol.</i> (1991) 21:1555-1558 "Induction of antibodies against a peptide hapten does not require covalent linkage between the hapten and a class II presentable T helper peptide"		
___ C49	Fynan <i>et al.</i> "DNA vaccines: Protective immunizations by parenteral, mucosal, and gene-gun inoculations," <i>Proc. Natl. Acad. Sci. USA</i> 90:11478-11482, December (1993)		
___ C50	Battegay <i>et al.</i> "Patients with Chronic Hepatitis C Have Circulating Cytotoxic T Cells Which Recognize Hepatitis C Virus-Encoded Peptides Binding to HLA-A2.1 Molecules," <i>Journal of Virology</i> 2462-2470, April (1995)		
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___ C53	Cerny <i>et al.</i> "Induction <i>in vitro</i> of a primary human antiviral cytotoxic T cell response," <i>Eur. J. Immunol.</i> 25:627-630, (1995)		
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___ C55	Ochoa-Garay <i>et al.</i> "The ability of peptides to induce cytotoxic T cells <i>in vitro</i> does not strongly correlate with their affinity for the H-sLd molecule: implications for vaccine design and immunotherapy" <i>Molec. Immunol.</i> 34:273-281 (1997)		



FORM PTO-1449 (Modified)		Attorney Docket No.: 01862, 005890US	Application No.: 09/017,735
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Howard M. Gray et al.	
		Filing Date: 2/3/98	Group: 1642
___ C56	Rudinger, J. "Characteristics of the amino acids as components of a peptide hormone sequence" in Peptide Hormones, edited by Parsons, J.A. University Park Press, 1976, pages 1-7		
___ C57	Bruss, V. "A short linear sequence in the pre-S domain of the large hepatitis B virus envelope protein required for virion formation" J. Virol. 71:9350-9357 (December, 1997)		
___ C58	Preisler-Adams, S. et al. "Complete nucleotide sequence of a hepatitis B virus, subtype adw2, and identification of three types of C open reading frames" Nucleic Acids Res. 21:2258 (1993)		
___ C59	Engelhard, V. et al. "Structure of peptides associated with MHC Class I molecules" Curr. Opin. Immunol. 6:13-23 (1994)		
EXAMINER		DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

